

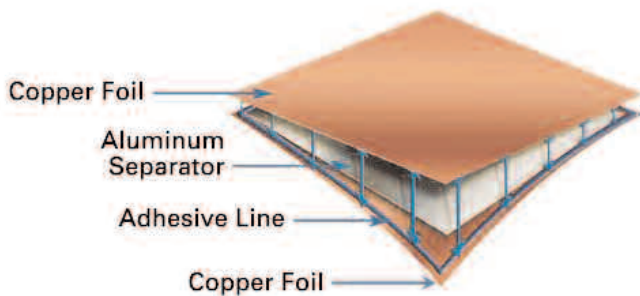


C2C LAMINATE

For Imaging Materials Application

DESCRIPTION

C2C is a “copper-separator-copper” laminate used in the manufacture of multilayer printed circuit boards. C2C is assembled by utilizing two copper foil panels that are oversized in each dimension relative to the size of the separator. An adhesive strip is applied to the lower copper foil panel in a border around the edge of the separator. The upper copper foil panel is then adhered to the lower copper foil panel creating a “tight” envelope for the separator sheet. All four sides are sealed to ensure the integrity of critical surfaces.



FEATURES

- **Improved Resistance to Image Transfer:**
C2C’s HMS™ separators are the hardest aluminum separators available on the market today. A harder separator produces a smoother outer-layer surface and translates into higher yields.
- **Removal of Steel Separators:**
Use double-sided C2C with .017 inch and .025 inch HMS in the place of single-sided CAC or ABC. Increase your capacity while cutting your lamination foil usage by 40%. Eliminate the cleaning and maintaining of steel separators.
- **Improved Thermal Expansion Properties:**
C2C is copper bonded to copper. No thermal expansion differential exists. The separator floats free and can expand without interfering with the copper foil. Direct bonding techniques (attaching copper directly to the separator) have a tendency to wrinkle the copper foil when the aluminum expands and the copper stays stable. Direct bonding techniques can increase scrap rates particularly when using ultra thin copper foil.
- **Critical Surface Integrity:**
C2C improves post-electrical test and final yields with the degree of improvement keyed to circuit density, line width and line spacing. C2C is manufactured in a class 100 clean room environment ensuring that critical copper foil surfaces remain free from foreign material and airborne particulate contaminants during the lay-up process and lamination.
- **Less Material Handling and Operator Labor:**
Lay-up cycle time is reduced by as much as 70% compared to conventional lay-up procedures.
- **Eases Use of Thin Foils - Eliminates Wrinkles:**
Without a separator as a carrier, foil is difficult to handle and easily damaged. C2C eliminates these issues.

COPPER FOILS

C2C is available with Gould and Iljin proven lines of copper foils - including reverse treat, shiny, double treat, and low profile. The following weights are available:

Thickness	Weight
9 μ	0.250 oz.
12 μ	0.375 oz.
18 μ	0.500 oz.
35 μ	1.000 oz.
70 μ	2.000 oz.
105 μ	3.000 oz.

SEPARATORS

C2C is available with copper-to-copper, HMS Hardened Aluminum as well as H19 Standard Aluminum separators. Other alloys are also available. The following thicknesses are available:

HMS	H19
-	0.010 in.
0.011 in.	-
0.015 in.	-
0.017 in.	-
0.025 in.	-

PANEL SIZES

Panels are available in sizes 12 in. x 18 in. through 24 in. x 30 in.

TOOLING CONFIGURATION

All panel sizes are available with standard multi-line tooling (0.188 in. offset in short dimension). Other configurations are available on a special order basis.

SLOT SIZES

Standard tooling slot size is 0.290 in. x 0.198 in. Other slot sizes are also available.

PROCESSING GUIDELINES

For best results, refer to the laminate and prepreg supplier's recommendations for lamination conditions.

STORAGE

Store C2C flat and at your ambient temperatures.

WASTE TREATMENT

Due to the nature of C2C, disposal and residues there from, should be made in compliance with federal, state and local environmental laws.



MANUFACTURED IN A TWO-TIER CLEAN ROOM ENVIRONMENT

The manufacturing environment is inside a class 100 clean room that is housed inside a class 10,000 clean room. The class 10,000 clean room utilizes a 90/10-air exchange (only 10% of air is drawn from outside, the balance is continually re-circulated through the clean room filters). The class 100 clean room draws 100% of its air from the class 10,000 room's environment.

The results are that the air gets continuously cleaner and cleaner. The relatively small footprint of the C2X manufacturing equipment allows for extremely high standards of cleanliness while still remaining cost effective.

